REMARKS

The following remarks are fully and completely responsive to the Office Action dated November 4, 2004.

Claims 1-7 are pending in this application with claim 8 canceled by the present amendment. In the outstanding Office Action claims 1 and 8 were rejected under 35 U.S.C. § 102(b), and claims 2-7 were rejected under 35 U.S.C. § 103(a). Claims 1-7 are presented for reconsideration.

35 U.S.C. § 102(b)

Claims 1 and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,937,759 to Vold. The cancellation of claim 8 renders moot the rejection of this claim. In making this rejection, the Office Action asserts that Vold teaches each and every element of the claimed invention. Applicant respectfully requests reconsideration of this rejection.

Claim 1, as amended, recites in part:

> selecting a height of the axis of rotation of the arm as a midway point between an upper end and a lower end of the selected region;
>
> approximating an arcuate path of a free end of the arm caused by rotational motion of the arm in accessing the selected region with a straight line that passes through a position of the free end of the arm extending in a horizontal direction and a position of the free end of the arm for accessing the upper or lower end of the selected region, and
>
> selecting a length of the arm so that a maximum error between a linearly approximated for-and-aft distance to the free end of the arm based on the straight line approximating the arcuate path of the free end of the arm and an actual for-and-aft distance to the free end of the arm based on the arcuate path of the free end of the arm is smaller than a prescribed maximum tolerated error

Vold fails to teach each and every limitation of claim 1. Specifically, Vold fails to teach and/or suggest "selecting a height of the axis of rotation of the arm as a midway point between an upper end and a lower end of the selected region". Vold also fails to teach and/or suggest "approximating an arcuate path of a free end of the arm caused by rotational motion of the arm in accessing the selected region with a straight line that passes through a position of the free end of the arm extending in a horizontal direction and a position of the free end of the arm for accessing the upper or lower end of the selected region." This reference also fails to teach and/or suggest "selecting a length of the arm so that a maximum error between a linearly approximated fore-and-aft distance to the free end of the arm based on the straight line approximating the arcuate path of the free end of the arm and an actual fore-and-aft distance to the free end of the arm based on the arcuate path of the free end of the arm is smaller than a prescribed maximum tolerated error".

Accordingly, Vold fails to teach and/or suggest the claimed invention. Accordingly, applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

35 U.S.C. § 103(a)

Claims 2-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,937,759 to Vold in view of In re Boesch. The Office Action admits that Vold fails to teach the measurements involved in the height of the axis of rotation, swing values, and error toleration. In making this rejection, the Office Action asserts

that based on the teachings of Vold, it would have been obvious to one of ordinary skill in the art to discover the optimum value of such result effective variables.

Regarding claims 2-5 which depend from claim 1, these claims are allowable for at least the reasons discussed above regarding claim 1.

Claim 6, as amended, recites in part:

> an arcuate path of a free end of the arm caused by rotational motion of the arm in accessing a selected vertical region of ±240 mm upward and downward from the horizontal line extending through the axis of rotation is approximated with a straight line that passes through a position of the free end of the arm extending in a horizontal direction and a position of the free end of the arm for accessing the upper or lower end of the selected region; and
>
> a length of the arm is selected so that a maximum error between a linearly approximated for-and-aft distance to the free end of the arm based on the straight line approximating the arcuate path of the free end of the arm and an actual for-and-aft distance to the free end of the arm based on the arcuate path of the free end of the arm is smaller than a prescribed maximum tolerated error.

Regarding claim 6 and claim 7 which depends thereon, Vold fails to teach and/or suggest at least "an arcuate path of a free end of the arm caused by rotational motion of the arm in accessing a selected vertical region of ±240 mm. upward and downward from the horizontal line extend to the axis of rotation is approximated with a straight line that passes through a position of the free end of the arm extending in a horizontal direction and a position of the free end of the arm in accessing the upper or lower end of the selected region". This reference also fails to teach and/or suggest that "a length of the arm is selected so that a maximum error between a linearly approximated fore-and-aft distance to the free end of the arm based on the straight line approximating the arcuate path of the free end of the arm and an actual fore-and-aft distance to the free end of the arm based on the arcuate path of the free end of the arm is smaller than prescribed maximum tolerated error".

Boesch is neither cited nor corrects the above deficiencies in Vold. Accordingly, the combination of Vold and Boesch fails to teach and/or suggest the claimed invention. Accordingly, applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2-7 under 35 U.S.C. § 103(a).

Information Disclosure Statement

Applicant respectfully notes the Form PTO-1449 attached to the Information Disclosure Statement dated February 12, 2003, has not yet been returned with the Examiner's initials indicating the Examiner has considered the submitted references cited therein. Applicant respectfully requests that the Examiner consider the references and provide a copy of Form PTO-1449 with the Examiner's initials next to the cited references indicating the Examiner properly considered the references. A copy of the PTO Form 1449 is attached for the Examiner's convenience.

Conclusion

Applicant's amendments and remarks have overcome the rejections set forth in the Office Action dated November 4, 2004. Specifically, Applicant's remarks have distinguished claim 1 from Vold and thus overcome the rejections of claim 1 under 35 U.S.C. § 102(b). Applicant's remarks have distinguished claims 2-7 from the combination of Vold and Boesch and thus overcome the rejection of these claims under 35 U.S.C. § 103(a). Therefore, Applicant respectfully requests consideration and allowance of claims 1-7.

Applicant submits that the application is now in condition for allowance. If the Examiner believes that the application is not in condition for allowance, Applicant respectfully requests that the Examiner contact the undersigned attorney by telephone if it is believed that such contact will expedite the prosecution of the application.

In the event that this paper is not considered to be timely filed, Applicants hereby petition for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees which may be required with respect to this paper to our Deposit Account No. 01-2300, making reference to attorney docket number 101213-00019.

Respectfully submitted,

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Enclosures: PTO Form 1449
Petition for Extension of Time
Request for Continued Examination
Notice of Improper Request for Continued Examination

TECH/271855.1

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.
101213-00019	09/988.033
APPLICANT: HIROSE	
FILING DATE: November 16. 2001	GROUP: 2837

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA	4,879,663	11/07/1989	Fuehrer	364		07/09/1987
	AB						
	AC						
	AD						
	AE						
	AF						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION YES	NO	PART.
	AG	EP 1 050 383 A1	08/11/2000	EP			X		
	AH	2 228 598	03/01/1974	DE				X	
	AI								
	AJ								
	AK								
	AL								

OTHER REFERENCES *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	AM	Nishtwaki, K. et al. "Generation of Reactive Stepping Motion for a Humanoid by Dynamically Stable Mixture of Pre-designed Motions", Systems, Man, and Cybernetics, 1999. IEEE SMC '99 Conference Proceedings. 1999 IEEE International Conference on Tokyo, Japan, 12-15 Oct. 1999; pages 902-907
	AN	Marjanovic, M. et al. "Self-Taught Visually-Guided Pointing for a Humanoid Robot", From Animals to Animats 4. Proceedings of the Fourth International Conference on Simulation of Adaptive Behavior, Proceedings of Fourth International Conference on Simulation of Adaptive Behaviour from Animals to Animats, North Falmouth, MA, USA; 1996, pages 35-44
	AO	

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.